

	ENT MOTE A	NOTE INDEX RY FOR DDRESS 1A NT INDEXES			MULTI-MOTE INDEX ENTRY FOR MOTE ADDRESS 3A CONTENT INDEXES
Light Device	Light Device Information Available	Query Command Format	G INDEX Output Format	Pressure Device	MOTE 3A: SENSING INDEX Pressure Query Output Device Command Format Information Format Available
Electrical/ Magnetic Device	Electrical/ Magnetic Device	Query Command Format	Output Format	Temp. Device	Temp. Query Output Device Command Format Information Format Available
Inertial Device	Information Available Inertial Device	Query Command	Output Format	Valume Device	Votume Query Output Device Command Format Information Format Available
Antenna	Information Available Antenna Information	Query	Output Format	Antenna	Antenna Query Output Information Command Format Available Format
1	Available	Format	Tormat		TO NIDEY
		1A: CONTROL	INDEX		MOTE 3A: CONTROL INDEX Pressure Control Feedback
Light Sensor	Light Device Commands Available	Control Command Format	Feedback Feedback	Pressure Device	Device Command Format Commands Format Available
Magnetic Device	Electrical/ Magnetic Device Commands	Control Command Format	Format	Temp. Device .	Temp. Control Feedback Format Available
Inertial Device	Available Inertial Device Commands	Control Command Format	Feedback Format	Volume Device	Volume Control Feedback Device Command Format Commands Format Available
Antenna	Available Antenna Commands Available	Control Command Format	Feedback Format	Antenna	Antenna Control Feedback Commands Command Format Available Format
	MOTE 1A	ROUTING/SPA			MOTE 3A: ROUTING/SPATIAL INDEX
Mote- Network Address 2A	Link (Quality of L	Absolute Coordinates: Long Lat. (e.g., GPS)	Relative Coordinates (e.g., 2-d·or 3-d relative to mote 1A location)	Mote- Network Address 1A	Comm. Absolute Relative Coordinates: Coordinates: Long Lat. (e.g., 2-d or 3-d relative to mote Good 1A location)
Mote- Network Address 3A	Comm. // Link (Quality of	Absolute Coordinates: Long Lat. (e.g., GPS)	Relative Coordinates (e.g., 2-d or 3-d relative to mote 1A location)	Mote- Network Address 2A	Comm. Absolute Relative Coordinates: Coordinates: Coordinates: Long Lat. (e.g., 2-d or 3-d relative to mote Fair A location)
Mote- Network Address 5A	Link Quality of	Absolute Coordinates: Long Lat. (e.g., GPS)	Relative Coordinates (e.g., 2-d or 3-d relative to mote 1A location)	Mote- Network Address 5A	Comm. Absolute Relative Coordinates: Coordinates: Coordinates: Long Lat. (e.g., Service: GPS) (e.g., 2-d or 3-d relative to mote 1A location)
	, , , , , , , , , , , , , , , , , , , ,			Mote- Network Address 6A	Comm. Absolute Relative Coordinates: Quality of Long Lat. (e.g., Service: GPS) Fair Absolute Relative (condinates) (c.g., 2-d or 3-d - relative to mote 1A location)
					Mulli-mote Registry (e.g., Motes Under
502 Mul	ti-mote Index Cr Bas	sed on Common Protocol)		Aegis of Multi-Mote Index Creation Agent and/or from Which Multi-Mote Index to be Constructed)
· · · · · · · · · · · · · · · · · · ·		Mote	-Appropriate Ad Hoo	: Kouting Applica	119 Antenna Entity 104 Layer 1
FIG. 5					Mote Network 550

MULTI-MOTE CONTENT INDEX **ENTRY FOR** MOTE ADDRESS 1A CONTENT INDEXES

MULTI-MOTE CONTENT INDEX ENTRY FOR MOTE ADDRESS 3A CONTENT INDEXES

MOTE 3A: SENSING INDEX MOTE 1A: SENSING INDEX Output Query Pressure Pressure Light Device Output Light Command Format Device Device Command Format Device Format Information Information Format Available Available Output Query Temp. Temp. Query Output Electrical Electrical Format Command Device Device Command Format Magnetic Magnetic Format Information Format Available Device Device Output Querv Information Volume Volume Format Command Available Device Device Format Information Output Query Inertial Inertial Format Available | Command Device Device Output Format Antenna Query Information Antenna Format Information Command Available Format Output Available Antenna Antenna Query Format Information Command Available Format MOTE 3A: CONTROL INDEX MOTE 1A: CONTROL INDEX Feedback Pressure Control Pressure Feedback Light Light Device Control Command Format Device Device Command Format Sensor Commands Commands Format Available Format Available Feedback Control Feedback Flectrical Electrical Control Temp. Temp. Command Format Format Magnetic Magnetic Command Device Device Format Format Device Commands Device Available Commands Feedback Control Available Volume Volume Format Command Feedback Device Inertial Control Device Inertial Format Format Commands Command Device Device Format Available Commands Feedback Control Available Antenna Antenna Format Commands Command Feedback Antenna Antenna Control Format Format Available Commands Command Available Format MOTE 3A: ROUTING/SPATIAL INDEX MOTE 1A: ROUTING/SPATIAL INDEX Relative Comm. Absolute Mote-Relative Mote-Comm. Absolute Coordinates Link Coordinates: Coordinates Network Coordinates: Long Lat. (e.g., GPS) (e.g., 2-d or 3-d Network Link Quality of (e.g., 2-d or 3-d Address Long Lat. (e.g., GPS) Quality of relative to mote Address Service: relative to mote Service: 1A 1A location) Good 1A location) Good Relative Absolute Mote-Comm Mote-Comm. Absolute Relative Coordinates Coordinates: Link Network Coordinates: Coordinates (e.g., 2-d or 3-d Network Link Quality of Long Lat. (e.g., (e.g., 2-d_.or 3-d Address Quality of Long Lat. (e.g., Address relative to mote GPS) Service: 2A relative to mote Service: GPS) 1A location) Fair 1A location) Absolute Relative Mote-Comm. Mote-Relative Absolute Comm Coordinates Coordinates: Network Link Coordinates Network Coordinates: (e.g., 2-d or 3-d Link Long Lat. (e.g. Quality of Address Quality of Long Lat. (e.g., (e.g., 2-d or 3-d Address relative to mote GPS) Service: 5A relative to mote Service: 5A GPS) 1A location) Poor 1A location) Poor Relative Absolute Comm. Mote-Coordinates Coordinates: Network Link (e.g., 2-d or 3-d Quality of Long Lat. (e.g. Address relative to mote Service: GPS) GΑ 1A location) Fair

Multi-mote Index **Creation Agent Creates** Multi-Mote Index (e.g., Based on Common Application Protocol)

Multi-mote Registry (e.g., Motes Under Aegis of Multi-Mote Index Creation Agent and/or from Which Multi-Mote Index to be Constructed)

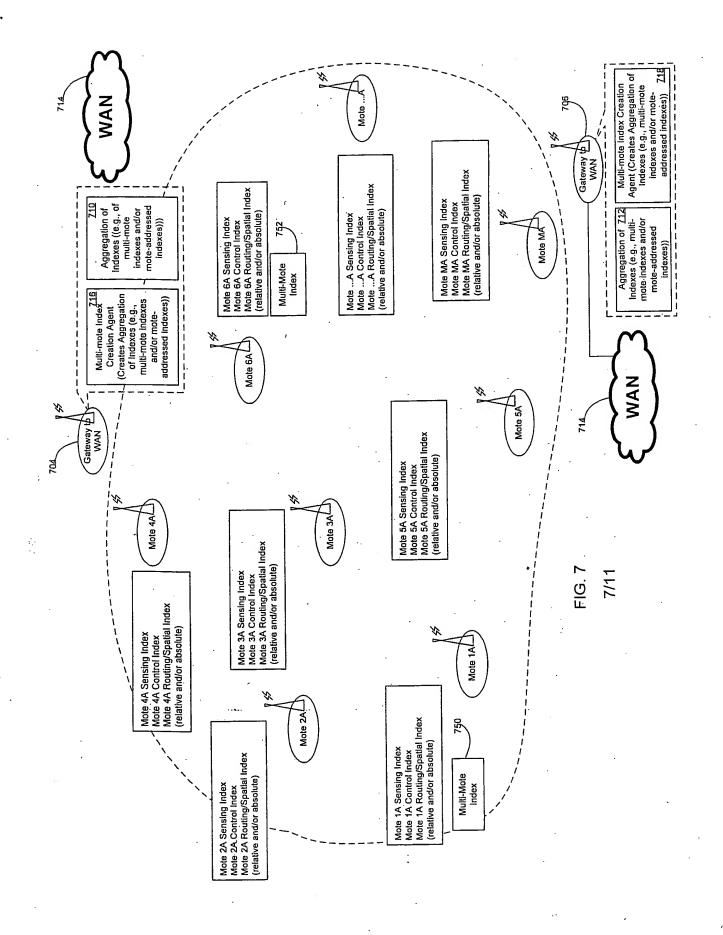
Multi-mote Reporting Entity Reports (Mote Address; Sensing Index; Control Index; and/ or Routing/Spatial Index) to Index Mote/ Gateway Mote - Clones/Crawls to Reachable Motes Based on Routing/Spatial Index

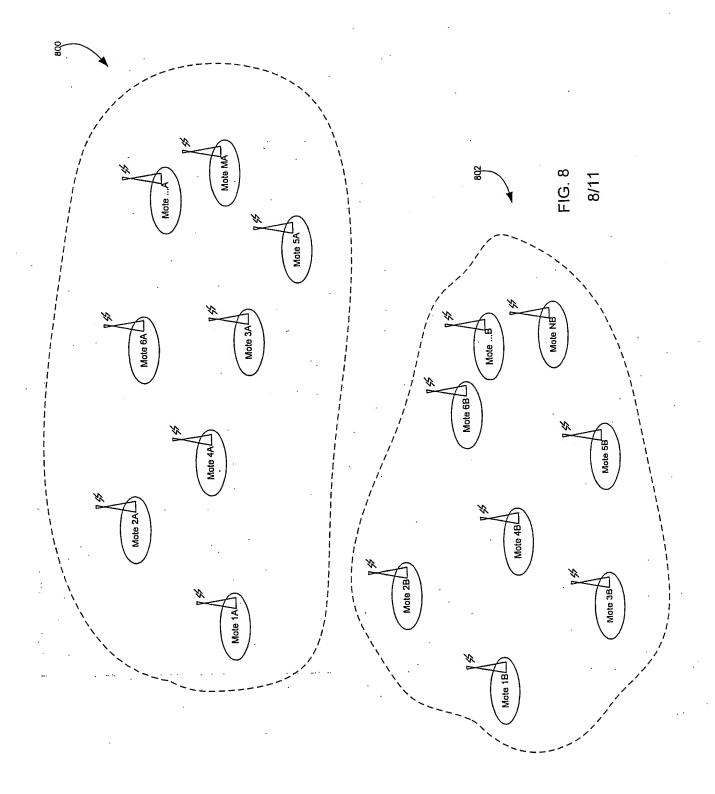
Mote-Appropriate Ad Hoc Routing Application (Layer 3)

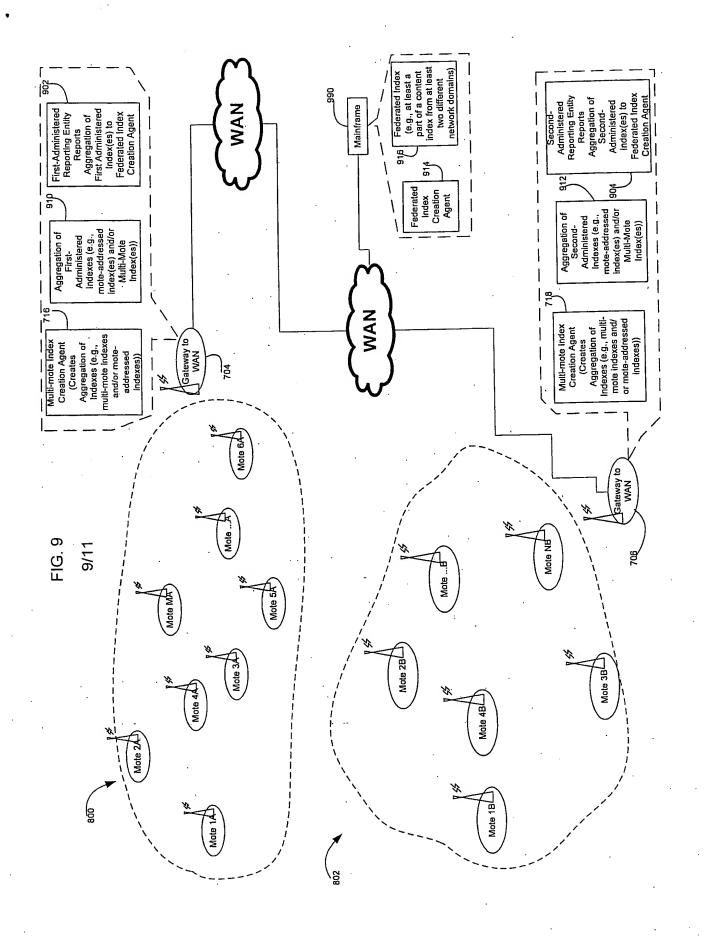
119 104

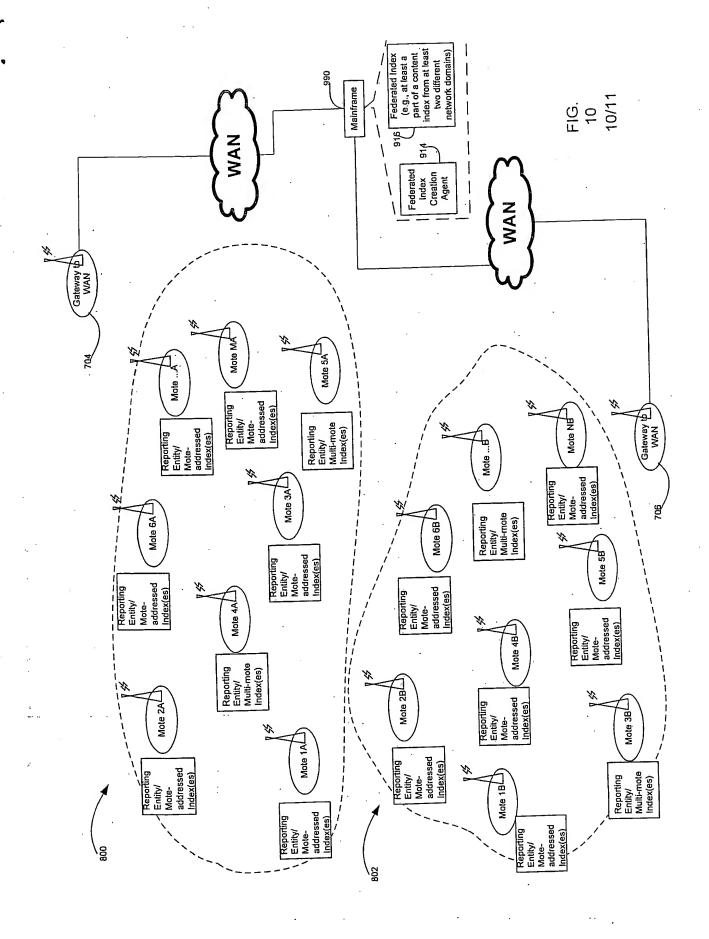
Antenna Entity

FIG. 6 6/11









A	GGR	EGATION (OF CON FOR DDRESS	TENT IND SES 1A	EXES OF MOTES			.GGF	REGATION (MOTE A	OF CONTENT IN FOR DDRESSES 3A DMINISTERED S		
MOTE 1A OF FIRST-ADMINISTERED SET OF MOTES: SENSING INDEX						MOTE 3A OF SECOND-ADMINISTERED SET OF MOTES: SENSING INDEX						
Light Device Light Device Information Available		Qu Co on Fo	uery ommand ormat	Output Format		Pressure Device		Pressure Device Information Available	Command on Format	Output Format		
Electrical/ Magnetic Device		Electrical Magnetic Device	/ Qu Co Fo	uery ommand ormat	Output Format		Temp. Device		Temp. Device Information Available		Output Format	
Inertial Device	Information Available Inertial Device				Output Format	-	Volume Device		Volume Device Information Available		Output Format	
Antenna		Informati Available Antenna	Qu	ormat uery	Output	-	Antenna		Antenna Informati Available		Output Format	
	М	Informati Available OTE 2A OF	FIRST-A	ommand ormat ADMINIST	Format ERED SET OF	$\frac{1}{1}$		М		SECOND-ADMI		
Light Sensor	C	MO ght Device ommands vailable	TES: CONTROL INDE		Feedback Format	-	Pressure Device	C	OF MOTES: CONT ressure Control evice Command ommands Format		Feedback Format	
Electrical/ Magnetic Device	Ma De	ectrical/ agnetic evice ommands	cal/ Control command commands commands commands commands command command command command command		Feedback Format Feedback Format		Temp. Device	T D C	vailable emp. evice ommands vailable	Control Command Format	Feedback Format	
Inertial Device	In: De	vailable ertial evice ommands					Volume Device	D C A	olume evice ommands vailable	Control Command Format	Feedback Format	
Antenna	Ar Cu	vailable ntenna ommands vailable	Contro	nand	Feedback Format		Antenna	C A	ntenna ommands vailable	Control Command Format	Feedback Format	
	MOTE 2A OF FIRST-ADMINISTERED SET OF MOTES: ROUTING /SPATIAL INDEX						MOTE 4A OF SECOND-ADMINISTERED SET OF MOTES: ROUTING /SPATIAL INDEX					
Mote- Network Address 2A	Li: Q Si	omm. nk uality of ervice:	Absolute Coordina Long La GPS)	ates: at. (e.g.,	Relative Coordinates (e.g., 2-d or 3-d relative to mote 1A location)		Mote- Network Address 1A	C		Absolute Coordinates: Long Lat. (e.g., GPS)	Relative Coordinates (e.g., 2-d or 3-d relative to mote 1A location)	
Mote- Network Address 3A	Cias	omm. nk uality of ervice:	Absolute Coordina Long La GPS)	e ates: it. (e.g.,	Relative Coordinates (e.g., 2-d or 3-d relative to mote 1A location)		Mote- Network Address 2A	L	omm. ink Quality of Service: air	Absolute Coordinates: Long Lat. (e.g., GPS)	Relative Coordinates (e.g., 2-d or 3-d relative to mote 1A location)	
Mote- Network Address 5A	C Li Q S	omm. nk uality of ervice: oor	Absolute Coordin Long La GPS)	ates: at. (e.g.,	Relative Coordinates (e.g., 2-d or 3-d relative to mote 1A location)		Mote- Network Address 5A	L	comm. ink Quality of Service: Poor	Absolute Coordinates: Long Lat. (e.g., GPS)	Relative Coordinates (e.g., 2-d or 3-d relative to mote 1A location)	
	<u> </u>						Mote- Network Address 6A	L	Comm. ink Quality of Service: air	Absolute Coordinates: Long Lat. (e.g., GPS)	Relative Coordinates (e.g., 2-d or 3-d relative to mote 1A location)	